

OBSERVATIONS

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ON

THE MEDICAL EVIDENCE

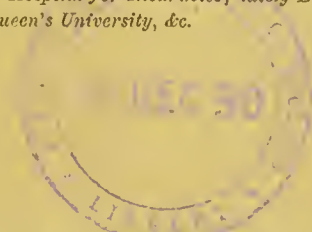
IN THE CASE OF

THE QUEEN *v.* SMETHURST.

BY

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"Oportet hoc in casu animum habere ab omni adfectu et perturbatione, liberum ac vacuum."—*Plenk Med. Forensis.*

*Prof. Gay. Kings College
with the written reports*

OBSERVATIONS.

As the late decision of the Secretary of State in the case of the Queen *v.* Smethurst, seems to permit a general reconsideration of the medical evidence, I feel induced to offer a few observations on what appear to me to be the more essential bearings of the facts, and briefly to examine the validity of the grounds on which the Crown sought to establish a charge of poisoning, together with the precise force of some of the objections preferred against the views of the medical witnesses for the prosecution.

Those who have had practical experience in legal medicine, and who have also taken the trouble to peruse the mass of medical correspondence and comment on the Smethurst trial, will not be slow to perceive that no inconsiderable portion of the statements put forward, if free from the charge of want of candour, appear, at least, to indicate much misapprehension of the sources from whence evidence as to the cause of death is to be derived in cases of the above nature, and of the precise scope and mode of application of the facts.

The medical circumstances, as elicited in evidence, as far as they bear upon the matter in hand, may be succinctly stated. The deceased, a middle-aged and generally healthy woman, about six weeks pregnant, had suffered, for about five weeks previously to her death, from violent gastric dis-

turbance, characterized by persistent and urgent bilious vomiting, attended by diarrhœa, which after a while assumed a dysenteric character. The vomiting recurred with violence on each administration of food or medicine by the prisoner, whilst that given by another was retained. The taste of the food was occasionally complained of. Burning of the mouth and throat was also noted, and apparently some signs of salivation. None of the measures adopted by the physicians in attendance produced the slightest benefit. The patient finally sank exhausted.

On dissection, the organs within the head and chest were found healthy. The mucous coat of the stomach betrayed, at the cardiac end, a large patch of black extravasation. The upper part of the small intestines presented nothing remarkable. The contents were bilious. The mucous membrane of the last three feet of this bowel was coated with a firmly adherent layer of granular lymph. That of the great intestine was beset "from end to end" with ulcers, mostly of the size of a sixpence, some of the edges of which were sharp, as if punched out, elsewhere loose and sloughing, the whole of an active and recent kind. In the cæcum the inflammation was of the most acute and violent nature; the lining membrane was not only superficially ulcerated throughout, but large portions of it mortified. The muscular coat was in part laid bare, and both it and the submucous tissue around were infiltrated with sero-purulent fluid. Blackish blood was spread in a thin coagulum over the mucous surface throughout the whole of the great intestine, but more especially in the cæcum.

The accomplished pathologist who conducted this part of the investigation, assigns valid reasons for believing, that the above condition of the great intestine could not have been of more than two or three weeks' standing.

The chemical inquiries established the presence of *arsenic* in one of two of the evacuations passed about three days before death, and of *antimony* in the contents of the small

intestine, in the cæcum, blood, and kidney. The amount of the former poison was estimated at about one-sixth of a grain, that of the antimony from one-fourth to one-half a grain—equivalent to about three times those quantities of tartar emetic.*

From the above epitome, it seems sufficiently obvious, that each of the recognised sources of medical evidence in such cases—the symptoms with the medical history—the morbid appearances—and the chemical researches, furnished

* Notwithstanding all that has been written on the error in the case of the chlorate of potass mixture, (immaterial to the issue,) the discovery of arsenic, as well as that of antimony, in the intestinal matters, remains unrefuted. Those who have a practical acquaintance with the subject, by comparing the opposite results of the examination of the two evacuations, under the use of the same re-agents, will recognise sufficient evidence that *here* the arsenic was not furnished by the copper gauze. Had the arsenic been derived from the action of intestinal chlorides and phosphates on the gauze (assuming their presence in the case before us,) we should expect that it would have been found in *both* of the discharges. It is further most improbable that during the short time which would be occupied by the experiment detailed in evidence, such an amount of copper should have been dissolved as to yield arsenic sufficient to be verified as such. I have also shown elsewhere, that of the arsenic deposited upon copper in the procedure of Reinsch, nearly one half is retained by the latter metal, when heated for the purpose of obtaining arsenious acid. Had chlorate of potass been internally administered by the prisoner, the liberation of arsenic in notable quantity, from its action on the gauze, would have involved solution of the latter, which is opposed to fact. The absence of antimony in the evacuation shows that the arsenic was not derived from the latter, viewed as tartar emetic, the larger crystals of which especially, sometimes contain traces of that poison. The idea that the poison was furnished by the two quarter-grain doses of sulphate of copper prescribed seems scarcely to require serious notice. Finally, the discovery of *arsenic*, otherwise of much significance, was obviously not indispensable to the proof of death by poison in the present instance. In their multifarious correspondence, the English critics and accoucheurs, who conducted the supplemental trial of the accused, and whose notions have been endorsed by the Secretary of State, studiously declined notice of the *antimony*.

respectively its appropriate train of facts, the whole concurrent and harmonious.

Before considering the general tendency of the medical evidence for the prosecution, it will be proper to interpose some notice of the special import of each of the above departments of facts. The statements of a large portion of the newspaper critics imply the gratuitous and false assumption, that the case of the Crown as respects the cause of death rested solely on the *symptoms*; and accordingly, by those who view the case through an obstetric medium, we are reminded that pregnant women vomit, and sometimes suffer from smart diarrhœa; nay, further, that in some few instances, the symptoms have been so persistent and severe, that poison has been suspected and sought for, but without success—on which, in passing, it may be remarked, that in the absence of any details, negative result in these latter cases, for obvious reasons, affords any thing but conclusive evidence that such were not instances of poisoning. But waiving this consideration, it is clear that, when we reflect on the relative frequency with which such severe symptoms attach to the conditions of pregnancy and poisoning respectively, the presumption would be in favour of the latter. However, no one requires to be now informed that cases of poisoning (with certain peculiar exceptions) are not decided by the symptoms only. Not even an attempt seems to have been made to instance a case in which pregnancy gave rise to the combination and intensity of morbid lesions witnessed in Miss Bankes's body, or which was accompanied by such, as the result of natural causes. Pregnant women, like any other persons, may be the subject of acute dysentery, or of gastro-enteritis; they are, however, equally obnoxious to a criminal poisoning; and here precisely it is that legal medicine interposes, and, by furnishing the results of chemical research, may decide the nature of the case. Had examples been forthcoming of the "spontaneous generation" of inorganic poisons in the bodies of pregnant women, dead of

gastro-enteritis, the cases cited by the obstetric practitioners would have been *ad rem*. In their present shape they cannot be admitted to have any really valid bearing on the inquiry.

As regards the *morbid appearances*, although, when viewed alone, they cannot be considered as distinctive, yet taken *as a whole*, and estimated in their nature, progress, and extent, they were clearly referable with much more justice to irritant poisoning than to any disease, or rather combination of diseases. The condition of the stomach is one with which experienced observers are familiar as the result of the action of irritant poison—one, moreover, which when unaccompanied by chronic disease of the organ, is rarely, if ever, found due to any other cause. The instance of purpura may be, perhaps, excepted; but here the diagnosis is sufficiently obvious.

The coating of lymph observed on the mucous membrane of the intestine, I have seen in poisoning by arsenic.* Considering its locality in Miss Bankes's case, however, it seems an unusual effect of dysentery. The enormous mass of ulceration, accompanied by tracts of sloughing in the great intestine, although common to acute dysentery and poisoning by some of the metallic irritants, is unattended by effusion of blood on the lining membrane of the stomach. Such an amount of destruction also is, perhaps, never produced by dysentery in the short space of time within which it seems to have resulted in the present instance. Acute idiopathic non-endemic dysentery in these countries is, moreover, a most rare disease. The appearances in the great intestine were such as are not uncommonly produced by the action of corrosive sublimate when death has not been rapid. I have evidence also, that arsenic occasionally gives rise to similar deep ulcerations in the same quarter; and there

* I have also found patches of this coating in the stomach from the same cause.

can be no reason to doubt, that tartar emetic, so analogous in its chemical and physiological habitudes to arsenic, is capable, under favorable conditions, of producing similar effects. On the whole, then, in Miss Banks's case, the symptoms, taken together with the appearances on dissection, when viewed in their intrinsic characters and combination, and irrespectively of chemical results, create the strongest possible presumption in favour of death by poisoning.

If it now be shown that the exceptions taken against the *chemical* department of the proof are immaterial, the strong presumption thus created becomes converted into *certainty*.

The only objections that seem to merit particular notice are—that subnitrate of bismuth, as is known, not uncommonly contains traces of arsenic ; and the specious allegation, that hyd. cum creta, besides other matters, contains both arsenic and antimony. With reference to the former, it will suffice to state, that the subnitrate of Dr. Julius was found exempt from arsenic. It is to be presumed that the Crown was unaware of this novel objection on the score of antimony, otherwise the grey powder would probably have been examined.

It appeared in evidence that hydrargyrum cum creta had been prescribed to the amount of thirty grains, in two-grain doses, extending over a period of ten days, which *terminated three weeks before death*. Whether the medicine was administered is, of course, unknown ; but we shall assume that it was—that the specimens submitted to the prisoner's witnesses for examination were sufficiently numerous, and ascertained to have come from sources above suspicion, and, what is most improbable, that a practitioner of standing whose other medicine, as we have seen, was pure, would purchase such a spurious article.

We ask, then, under the above circumstances, will any one acquainted with the properties of this agent, and with well-known facts relative to the absorption and dis-

charge of medicines and of poisons, seriously entertain the notion, that whilst all the remedies prescribed were speedily followed by vomiting, and notwithstanding repeated purgings, so much of the medicine should have been retained, as to disclose one-sixth of a grain of arsenic in *but four ounces* of a stool passed *eighteen days subsequently to the last dose*, together with an amount of antimony in the body equivalent to from three-fourths to a grain and a half of tartar emetic—quantities of both *considerably greater* than, according to the showing of the witnesses themselves, could have *been furnished by the entire thirty grains* ! Shall we be told, that, albeit no trace of *mercury*, the predominant element of the drug, was forthcoming in the bowels or elsewhere, the antimony and arsenic remained, having been separated within the body from the other ingredients by some hitherto unobserved and occult process ? Lastly, did this latent antimony still linger even in the *small intestine* for one-and-twenty days ? ! !

But these forensic specimens of grey powder prove too much. Large doses of arsenic and mercury are commonly quite eliminated in from fourteen to eighteen days from the date of their ingestion, and sometimes earlier. Orfila also states, that antimony is more speedily expelled than arsenic. On the contrary, the *antimony and arsenic of hyd. cum creta* cling to the organism with such tenacity, that in the *unvomited remnant* of thirty grains those poisons are discovered three weeks afterwards ! In Ireland, hyd. c. creta consists of mercury and chalk ; that of our neighbours, not only contains *no mercury*, (as shown by the chemical examination of Miss Bankes's organs,) but must consist solely of antimony and arsenic, not, indeed, of ordinary mould, but most likely “potentized” to the tenth degree by the succussions of some homœopathic charlatan. Possibly Dr. Julius has reserved some for the inspection of the *savans*. Meantime let English physicians look to the safety of their patients.

Such are the refinements credulously accepted by newspaper critics, who betray a solemn scepticism on other evidence of the most obvious kind. The amusing hypothesis which would refer the antimony in Miss Bankes's body to its presence as a constituent of the enema syringe, will not explain either its amount, or the existence of the poison in the contents of the cæcum, much less in those of the *small intestine*. According to my experience, the presence of the antimony in this latter quarter, affords a very strong presumption, that a compound of the metal was administered at a period so late as three or four days, and possibly but a few hours, before death ; for, in the analogous case of poisoning by arsenic, when life had been prolonged for the first-named period, and sometimes for less, I have generally failed to discover the poison there, although it was present in the cæcum or the colon.

From the foregoing it remains established that arsenic and antimony—not prescribed by the attendants—not normal constituents of the human structures,* and totally incapable of being referred to pharmaceutic impurity—existed in the body of the deceased. Accident and suicide were negated by the general facts. The inference is plain.

The trite objection on the score of the *quantity of poison* discovered, (a favorite theme of counsel,) implies a want of acquaintance with the physiological action of poisons. It is quite obvious that the portion discovered is but *complemental*, being the difference between the total amount administered, and that which has been discharged in various ways. Repeated observation satisfies me, that the quantity of absorbed poison present, even under the most favorable circumstances, is comparatively small. Thus, in acute cases of poisoning by metallic irritants, the average amount to be expected in the liver, (comparatively the most rich in

* The myth of "normal arsenic" has been abandoned even by the bar as impracticable. It has now descended to the newspapers.

such deposit,) does not exceed three grains. When any considerable interval has elapsed between the last dose and death, it will be, as we have seen, much less. The amount retained in the alimentary canal will depend on circumstances too evident to demand mention. In Miss Bankes's case, other structures, which possibly might have contained antimony, such as the intestinal coats, muscular tissue, and bones, &c. &c. were not examined. The discovery of the metal in those quarters, however, (the probability of which would much depend on the length of the period of administration, and the doses,) whilst it would have enormously increased the labour of the inquiry, would not have added any material force to the weight of proof. In such cases, the evidence required is, the presence of a poisonous substance, not a natural constituent of the body, nor possibly introduced from accidental or medicinal sources—the conformity of the symptoms and morbid appearances with this—and the non-discovery of any co-existent condition capable of explaining the *entire series* of the medical facts.

The difficulties interposed by the defence on the ground of the alleged *unusual distribution* of the poison, place the objectors in the predicament of those who oppose a theory to a fact. Although this may be “so much the worse for the facts,” still similar stubborn occurrences sometimes present themselves, as in cases given by Bayard, Chevallier, and Flandin. It is not a fact that antimony was not discovered in the “tissues,” having been found in the kidney. The distribution, even, of the same poison also, is not always uniform. Thus I have found arsenic in the liver where, with all the necessary precautions, none was traceable in the kidney; and there appears no reason why the converse should not prove sometimes true, of this or any other poison. Arsenic may be present or absent from the brain, and so of other parts.

In proportion to the length of interval which has elapsed between the last administration of poison and death, will

be the variation in its locality and amount. I have found arsenic very distinctly in the liver, and also in the cæcum, in a person who had survived its administration for ten days ; in a second case, in very feeble quantity in the liver, (and here only,) on the fourteenth day ; and none in any of the organs of a gentleman who succumbed on the sixteenth day under the influence of a large dose. Miss Banks's case does not afford any precise data for determining what may have been the poison first administered, and various solutions of the matter might be offered having more or less of probability. If salivation really existed, it might create a presumption in favour of mercury, although, for known reasons, it could not be decisive. Thus salivation is not an unusual effect of antimony. The appearances in the great intestine were unquestionably such as corrosive sublimate is adequate to produce. If a single smart dose of arsenic, or of corrosive sublimate, had been given at the beginning of the illness, or a short series of smaller doses, and the gastro-dysenteric conditions, now well-established, had been maintained and fed by subsequent and intermitting small amounts of antimony, an adequate explanation of the observed nature and distribution of poison would seem at hand. Minute doses of arsenic also may have been occasionally interposed. By such an use of antimony, the exit of the poison would nearly keep pace with its entrance, impeded as the latter would have been, by the inflamed condition of the absorbing surfaces.

The kidney being the chief channel of elimination, it is here, and in the blood, (which forms the medium of transmission,) that, under the circumstances, the poison should have been expected. Lastly, were the objections on the score of distribution valid, they should clearly apply with as much force to the novel antimony of *hyd. cum creta* as to that of olden days.

As regards the objection evoked by the murder of Palmer's wife, and revived by an able physician in the

Medical Press of September 14, 1859, that very large doses of antimony, as employed in the treatment of pulmonary disorders are not poisonous, it may suffice to observe, that no safe analogy can hence be drawn as to its influence on the healthy body. This latter, however, is precisely the question involved in medico-legal practice. With just as much reason might opium be pronounced innocuous, because a patient suffering from delirium tremens can take doses which would kill a man in health.

Even in those cases of disease in which a tolerance of tartar emetic has been generally accredited, serious, or even fatal effects occasionally follow. An observer of Rasori's practice in pneumonia states that the mortality was more than fifty per cent., and was, in his opinion, due more to the remedy than to the disease. Dr. Boling,* speaking of doses much inferior to the Rasorian, bears testimony to their danger. I have myself seen symptoms of poisoning from medicinal doses of very ordinary amount. Such cases might be multiplied if necessary. Indeed, it seems not unlikely that the pretty general abandonment of tartar emetic in the disease has arisen as much from the hazard of this mode of treatment, as from a change in the type of the disorder.

The experiments of Wetzler, Jankowich, and Mayerhofer, performed several years ago *upon their own persons*, are decisive as to the poisonous action of tartar emetic upon the healthy body in repeated doses not exceeding one grain and a half, and in several instances much less.† It was found

* *Dublin Medical Press*, November 19th, 1851. In a case of pneumonia, Dr. Haldane (*Edinburgh Med. Jour.* 1854,) has seen between forty and fifty grains, distributed over several days, prove fatal, with marked symptoms of antimonial poisoning.

† Heller's *Archiv.* 1846, page 100, and Kleinert's *Allgemeines Repertorium*, i Heft., page 61. The experiments of the latter observer are contained in his prize essay, in answer to questions proposed by the University of Munich in 1841, and which embraced most of the

that the medicine could not be pushed, without danger, beyond a total of from seven to ten grains.

The doctrine of the harmlessness of repeated inferior doses of antimony has of late met practical refutation in several important cases—as those of Anne Palmer, Macmullen, Hardman, and Freeman, which latter was referred to me for investigation.

The medical circumstances, therefore, elicited on the Smethurst trial, when taken in their integrity, and viewed in their legitimate and relative bearings, appear to me to establish the fact of death by poison as conclusively as in any case that has fallen within the range of my experience or reading as having formed the subject of a criminal trial.

The specious, yet fallacious process of dismemberment of the body of medical facts—a procedure allowable no doubt to counsel, but unworthy of those in search of truth—seems to have been almost the sole cause of the self-imposed difficulties of the newspaper critics. If the group of medical data—symptoms, appearances, and chemical results—is to be disjointed, instead of being viewed as a coherent whole; if, in cases where all, on careful examination, are seen to harmonize, the facts are to be explained away, by crowding a series of remote and isolated possibilities into the case, the establishment of the cause of death in *any* charge of poisoning would be impossible. The common sense of juries, however, usually estimates such a pro-

points of importance in the medico-legal history of antimony. Not having been undertaken in reference to any special case, they are the more entitled to reliance. The English supporters of the innocence of antimony and of Palmer, were content with observations made *in corpore vili*. Had they followed the example of the German physicians, their confident assertions would probably have been seriously modified. It is remarkable that on the occasion of some recent trials in England for poisoning by antimony, effected by non-professional imitators of Palmer, none of the above objectors presented themselves as witnesses in support of their theory, and in defence of those about to become the victims of medical misconception.

ceeding at its intrinsic value. With such ample materials before them, it is to be regretted that, in establishing the cause of death, the Crown was not instructed more clearly in the necessity of dealing with the medical facts *en masse*.

Whilst impressed with the belief that the medical evidence, when taken alone, is decisive as to the cause of death, I see no reason to admit, with a leading journal, that the conviction was had solely on the medical testimony. On the contrary, it is probable, from the statements of the learned Judge, whose ability and integrity were so conspicuous on the occasion of the trial, that the jury attached more weight to the significant mass of moral circumstances. It is the undoubted right of a jury, when presented with conflicting medical views upon any given question, to accept, as they usually do, that which is in harmony with the general evidence. In the case of Smethurst, it has been truly said that the moral facts were unintelligible on any other hypothesis than that of the guilt of the accused. The statements of the prisoner himself, after his conviction, bore additional and painful testimony to the justice of the verdict.

4 UPPER MERRION STREET,
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